

1. (currently amended) Apparatus suitable for manipulating cerebral blood flow characteristics, the apparatus comprising:

a catheter having proximal and distal ends, a lumen extending therebetween, and an occlusive element affixed to the distal end, the occlusive element having an opening that communicates with the lumen, the occlusive element having a contracted position suitable (configured for transluminal retrograde insertion via the descending aorta and an expanded position wherein the occlusive element occludes antegrade flow in a carotid artery vessel;) and

a at least one flow control device having proximal and distal ends and a flow control element disposed at the distal end, (the flow control device configured for insertion, separately from the catheter, via a subclavian artery and brachiocephalic trunk so that the flow control device, when deployed, inhibits flow to vertebral and common carotid arteries, thereby controlling mid-cerebral artery controlling flow in the mid cerebral artery.

2. (original) The apparatus of claim 1 wherein the occlusive element comprises an inflatable balloon.

3. (original) The apparatus of claim 2 wherein the inflatable balloon further comprises a distal taper.

4. (original) The apparatus of claim 3 wherein the inflatable balloon further comprises a proximal taper.

5. (original) The apparatus of claim 1 wherein the flow control element is inflatable.

6. (original) The apparatus of claim 1 wherein the flow control element comprises a plurality of deployable wires coated with a blood impermeable layer.

7. (original) The apparatus of claim 1 wherein the occlusive element affixed to the catheter is configured to occlude antegrade flow in an artery.

8. (original) The apparatus of claim 1 further comprising:

a shaft having proximal and distal ends; and

a balloon having proximal and distal ends, the balloon being disposed near the distal end of the shaft.

9. (original) The apparatus of claim 8 wherein the balloon is adapted to be disposed in a communicating artery.

10. (original) The apparatus of claim 8 wherein the distal end of the balloon is everted.

11. (original) The apparatus of claim 10 wherein the proximal end of the balloon is everted.

12. (original) The apparatus of claim 1 further comprising a recovery catheter having proximal and distal ends, the recovery catheter configured to telescope in and out of the first catheter.

13. (original) The apparatus of claim 12 wherein the recovery catheter comprises a balloon affixed to the distal end.

14. (original) The apparatus of claim 12 further comprising at least one venting hole disposed in a lateral surface of the recovery catheter.

15. (original) The apparatus of claim 14 further comprising an inner sheath configured to manipulate flow into the venting hole.

16. (original) The apparatus of claim 12 wherein the recovery catheter comprises a radially expandable distal section.

17. (original) The apparatus of claim 16 wherein the radially expandable distal section comprises a wire weave configuration covered by an impermeable membrane.

18.-25. (withdrawn)

26. (new) A system for manipulating cerebral blood flow characteristics, the system comprising:

a catheter having proximal and distal ends, a lumen extending therebetween, and an occlusive element affixed to the distal end, the occlusive element having an opening that communicates with the lumen, a contracted position configured for transluminal retrograde insertion via the descending aorta and an expanded position wherein antegrade flow in a carotid artery is occluded; and

a flow control device, separate from the catheter, having a flow control element configured for insertion via a subclavian artery and brachiocephalic trunk so that the flow control device, when deployed, inhibits flow to vertebral and

common carotid arteries, thereby controlling mid-cerebral artery flow.

27. (new) The system of claim 26 wherein the occlusive element comprises an inflatable balloon.

28. (new) The system of claim 27 wherein the inflatable balloon further comprises at least one of a proximal or distal taper.

29. (new) The system of claim 26 wherein the flow control element is inflatable.

30. (new) The system of claim 26 wherein the flow control element comprises a plurality of deployable wires coated with a blood impermeable layer.

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